TTU QuarkNet Center in 2012

The Texas Tech University Summer QuarkNet program started its 12th year in summer 2012.

New this year is Thomas Davis from Blackwell CISD who joined Katrina Sellers of Lamesa High School and Alex Leach of Lubbock Copper High School. They join long time QuarkNet teacher Brett Peikert of Lubbock Trinity Christian School along with TTU physicists Dr. Sung-Won Lee (TTU QuarkNet PI), Dr. Chris Cowden (Postdoctoral Research Associate), and Mr. Kittikul Kovitanggoon (Ph.D. Student). We also added two TTU undergraduates David Ryberg and Jonathan Clark to the group who are majoring in physics. The workshop was held on July 25-27, 2012.

This year, teachers participated in several different activities during workshop. The QuarkNet teachers all helped assemble, calibrate, and commission a new cosmic detector that will be housed with Katrina Sellers. In addition to cosmic muon rate measurements, they also worked with Cosmic Ray e-Lab to investigate data from a cosmic ray counter array.

Highlight of the workshop was the update of the LHC/CMS. Dr. Sung-Won Lee and Dr. Chris Cowden gave exciting talks on "Recent Observation of Higgs-like Particles at LHC" and "Monopole Search in CMS", respectively. Teachers also observed a real-time CMS control room shift and participated in the CMS online/offline operations using web-based monitoring tools at TTU Tier-3. Teachers learned about many things that needed to be checked and what certain graphed results meant. Kittikul Kovitanggoon, PhD student working on CMS experiment, demonstrated how to look at CMS data, and all teachers actively participated in real data analysis by reconstructing Z^0 boson decaying muon pairs. It was a great experience for the QuarkNet teachers alike to see the cutting edge physics in action.

Teachers also held a video-conference with two TTU physicists, Dr. Alan Sill and Dr. Nural Akchurin who were at CERN. TTU physicists took the teachers on a video tour of the DREAM (RD52) Test Beam Facility at CERN.

This year's workshop looked to give relevance and application to the teachers in the classroom by giving information on the new and interesting things that students are work with (cosmic ray detector) in the classroom. With the end of another great QuarkNet summer workshop, TTU QuarkNet teachers will head back to the classroom more tools to spark, inspire and get students connected.

Our QuarkNet monitor Kris Whelan visited us during the workshop and participated in much of the activities. We would like to give Kris special thanks for spending the time with the team and making this an enjoyable experience for all.


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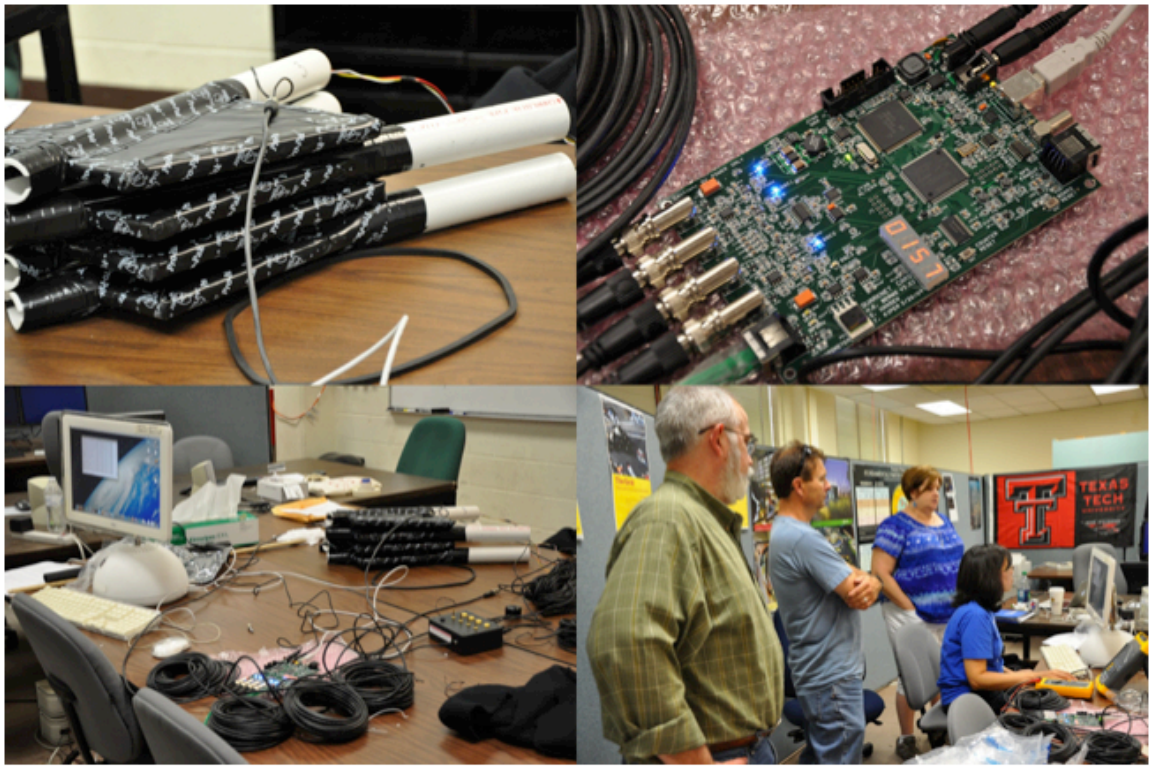
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